

**ABSTRACT**

An electrical heating unit is presented for use in a heating device for heating an object to a required temperature and enabling maintaining this temperature of the object. The heating unit may have the following configuration: first and second elements each made of a material with a specific resistivity in a range of about 0.01-0.1 Ohm·mm<sup>2</sup>/m thereby enabling substantial flatness and flexibility of the heating unit, the first and second elements being accommodated adjacent to each other in spaced-apart substantially parallel planes, being electrically insulated from each other, and having different resistance and different surface areas as compared to each other, the first element having the relatively high resistance and relatively low surface area and serving as a heater, and the second element, which is to be located closer to the object when in operation of the heating unit, serving as a distributor of heat created by the first element when the first element is connected to a power source, the heating unit being arranged so as to provide for compensating a magnetic field created by the heating unit when connected to the power source. The heating unit may have the following configuration: comprises a heater element made of an electrically conductive material and formed with spaced-apart holes of predetermined shape and distribution within the heater element plane so as to provide a desired value of a working resistance of the heater element for generating a required heat power, the heating unit when connected to the power source thereby providing substantially homogeneous temperature field in the vicinity of the heating unit.